

SPIXIANA	19	2	155–182	München, 01. Juli 1996	ISSN 0341–8391
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Internal classification of the genus *Dasytidius* Schilsky with descriptions of new species of the subfamily Chaetomalachiinae

(Insecta, Coleoptera, Dasytidae)

By Karel Majer

Majer, K. (1996): Internal classification of the genus *Dasytidius* Schilsky with descriptions of new species of the subfamily Chaetomalachiinae (Insecta, Coleoptera, Dasytidae). – Spixiana 19/2: 155–182

The species of the genus *Dasytidius* Schilsky are reviewed, ideas to the internal classification and biogeography of the genus are provided. Fourteen new species are described: *Achaetomalachius rosti*, spec. nov. (N India), *Dasytidius brevicornis*, spec. nov. (Turkey), *D. clarkei*, spec. nov. (Ethiopia), *D. crassicornis*, spec. nov. (Syria), *D. endroedyi*, spec. nov. (Ghana), *D. impar*, spec. nov. (Turkey), *D. insularis*, spec. nov. (Greece: Lesvos), *D. malkini*, spec. nov. (Turkey), *D. marsaleki*, spec. nov. (Kyrgyzstan), *D. muehleii*, spec. nov. (Yemen), *D. recticollis*, spec. nov. (Syria), *D. turnai*, spec. nov. (China), *Dasytiscus strejcekorum*, spec. nov. (Armenia), *Mimothrix pamirensis*, spec. nov. (Tajikistan).

The male of *D. wittmeri* Majer and the female of *D. inchoatus* Majer are described. Five *Dasytiscus*-species are transferred to *Dasytidius*: *Dasytidius sudanicus* (Pic), comb. nov., *D. atrimembris* (Pic), comb. nov., *D. desaegeri* (Pic), comb. nov., *D. deportatus* (Peyerimhoff), comb. nov., and *D. licenti* (Pic), comb. nov. Two new synonyms are proposed: *Dasytiscus scotti* Wittmer, syn. nov. of *Dasytidius atrimembris* (Pic), *Dasytiscus ruficollis* var. *bicoloriceps* Pic, syn. nov. of *Dasytiscus minimus* J. Sahlberg. A classification of the genus *Dasytidius* into species group is provided.

Karel Majer, Osová 4, 625 00 Brno, Czech Republic.

Introduction

The present contribution is a complementary study on the subfamily Chaetomalachiinae of Dasytidae, chiefly on the genus *Dasytidius* Schilsky, its classification, redescriptions of some of Pic's species and descriptions of new ones. Several new species from some other genera that have already been revised are also described. With the present paper, the subfamily Chaetomalachiinae is now completely revised and no obscure taxa remain.

Abbreviations used

BMNH	British Museum, Natural History, London, U.K.
HNHM	Természettudományi Múzeum, Budapest, Hungary
KMBC	Karel Majer, private collection, Brno, Czech Republic
MNHN	Muséum National d' Histoire Naturelle, Paris, France
MRAC	Musée Royal de l' Afrique Centrale, Tervuren, Belgium

NHMB	Naturhistorisches Museum Basel, Switzerland
RCSL	Private collection of Dr. R. Constantin, Saint-Lô, France
ZMUM	Zoologicheski Muzei MGU, Moscow, Russia
ZSMC	Zoologische Staatssammlung, München, Germany

Classification of the genus *Dasytidius*

The genus *Dasytidius* comprises 74 species and subspecies until now, hence, they require an internal classification. Differences among the species group are not striking. They are primarily based on different transformation series (autapomorphic in themselves) of the tegmen and/or phallus (internal sac) which are correlated with biogeography. Superficial characters are mostly of convergent or parallel nature as is the rule in Chaetomalachiinae, a revisional key to species based on external characters seems therefore useless. After having reached the respective species group, both, female and male terminalia must be compared with illustrations found in the present paper and in the four previous papers (Majer 1989, 1990, 1991 a, b).

Key to the species groups

Figs 90, 91

1. Phallus more or less slender, apex neither strongly truncate nor claw-like incurved 2.
- Phallus robust, with strongly truncate apex and/or the latter is claw-like incurved. Mostly robust, shortly cylindrical species 7.
2. Tegmen with prebasal dilation. Base of phallus extensive, mostly subtriangular, distal half mostly more or less sinuate 3.
- Tegmen without prebasal dilation. Base of phallus less extensive, seldom subtriangular, distal half not sinuate 4.
3. Apex of phallus strongly sinuate. Seminal canal of ♀♀ slender, membranous. Distribution: Turkey, Syria, Lebanon 1. *fulvipes*-group
- Apex of phallus simply incurved. Seminal canal of ♀♀ always sclerotized. Distribution: Whole East Mediterranean 2. *syriacus*-group
4. Base of phallus very small, body nearly straight. Internal sac with one kind of straight very slender spinules only, these mostly arranged into a row. Tegmen distally strongly narrowed and conical. Distribution: West Mediterranean 4. *medius*-group
- Base of phallus more extensive, body more or less arched. Internal sac without spinules or with different ones. Tegmen distally less slender 5.
5. Base of phallus narrowly lobed. Internal sac unarmed or with one kind of spinules only. Distribution: Syria, Turkey, Greece 3. *optivus*-group
- Base of phallus less narrowly lobed but rather subtriangular. Not in East Mediterranean 6.
6. Tegmen distally somewhat less conical. Phallus always robust. Distribution: West Mediterranean 5. *vestitus*-group
- Tegmen distally mostly strongly conical. Distribution: Central Asia & East Palaearctic 6. *rufimanus*-group
7. Phallus robust, apex broadly truncate and/or finely incurved at tip. Distribution: Palaearctic .. 8.
- Phallus rather slender, not simply truncate at apex, tip strongly claw-like incurved. Distribution: Afrotropical 10.
8. Phallus strongly constricted in front of base, tip not incurved. Tegmen posteriorly with lateral dilation. Apex of spicular fork incurved. Distribution: Iran 7. *transversus*-group
- Phallus not constricted in front of base, tip incurved. Tegmen and spicular fork simple 9.

9. Internal sac with two kind of spinules only. Distribution: Whole East Mediterranean 8. *persicus*-group
- Internal sac with three kinds of spinules and one arched sclerite composed of more or less fused spinules. Distribution: The Balkans, Turkey & Cyprus 9. *indutus*-group
10. Bottom of tegmen simply convex. Internal sac with several big spines. Distribution: Somalian, Sudanic & West-African 10. *sudanicus*-group
- Bottom of tegmen strongly broadened and flat to emarginate. Internal sac without spinules or with fine numerous ones. Distribution: Somalian & East-African 11. *atrimembris*-group

Systematic survey of species

1. *fulvipes*-group

This is a well defined, small group, with appearance rather of *D. indutus* Kiesw., with sparse pilosity and light extremities. It could be also included in the *syriacus*-group.

1. *fulvipes* (Reitter, 1885); Syria, Turkey.
Dasytiscus fulvipes Reitter, 1885: 242, 244.
2. *prosperus* Majer, 1989; Turkey.
Majer, 1989: 141, 154; figs 2, 9, 10, 44, 59, 78.
3. *insularis*, spec. nov.; Greece (Lesvos).

2. *syriacus*-group

This large group is homogeneous due to the autapomorphic prebasal dilation of the tegmen.

4. *sparsepubens* Majer, 1990; Libya.
Majer, 1990: 41, 53; figs 16, 34, 42, 43, 58, 76, 87.
Dasytiscus indutus var. *sparsepubens* Pic, 1925a: 2.
5. *ethologus* Majer, 1989; Greece (Crete).
Majer, 1989: 145, 154; figs 17, 18, 33, 35, 42, 49, 64, 80.
6. *subsyriacus* Majer, 1991; Jordan, Syria.
Majer, 1991a: 7; figs 9, 25, 38, 55, 65, 89.
7. *syriacus* (Reitter, 1885); Cyprus, Israel, Jordan, Lebanon, Syria, Turkey.
Dasytiscus syriacus Reitter, 1885: 245.
Dasytiscus syriacus var. *obscuripes* J. Sahlberg, 1913: 151.
8. *kalalovae* Majer, 1991; E Iran, Iraq, Turkey.
Majer, 1991a: 3; figs 3-5, 24, 35, 49-52, 67, 68, 83, 84, 86.
9. *alfierii* (Wittmer, 1935); Iraq, Israel, Jordan, Syria, Sinai.
Dasytiscus (Haplothrix) Alfierii Wittmer, 1935: 188.
Dasytiscus atratus Majer, 1991a: 2; figs 2, 23, 48, 69, 85.
10. *nigripes* (Pic, 1894); Azerbaidjan, Iran, Syria, Turkey.
Dasytiscus nigripes Pic, 1894: 112.
Dasytiscus indutus var. *obscuripes* Pic, 1896: 48.
Dasytiscus obscuripes Liberti, 1986: 188; figs 9-12.
Dasytiscus attenuatus Majer, 1991a: 7; figs 22, 39, 66, 90.
Dasytiscus svihlai Majer, 1991b: 6, 17; figs 8, 25, 36, 54, 87.
11. *inchoatus* Majer, 1991; Cyprus.
Majer, 1991a: 5; figs 10, 36, 53, 87.

12. *aurescens* Majer, 1991; Syria.
Majer, 1991a: 4; figs 7, 35, 52, 86.
13. *latissimus* Majer, 1989; Syria, Turkey.
Majer, 1989: 16.
Dasytidius avius Majer, 1989: 149, 154; figs 23-25, 67-69, 83.
14. *maceki* Majer, 1991; Iraq.
Majer, 1991a: 9; figs 13, 27, 41, 57, 71, 91.
15. *laticollis* (Bourgeois, 1885); Iraq.
Dasytiscus laticollis Bourgeois, 1885: 256, 257.

3. *optivus*-group

The tegmen in this group lacks a prebasal dilation, but the phallus in several species (e.g. Nos. 19 & 20) strongly resembles that in the *syriacus*-group. The inclusion of *D. emgei* (Reitt.) is rather tentative, the latter might form a special species-group.

16. *optivus* Majer, 1989; Syria.
Majer, 1989: 143, 154; figs 15, 16, 37, 48, 63, 79.
17. *crassicornis*, spec. nov.; Syria.
18. *recticollis*, spec. nov.; Syria.
19. *congruens* Majer, 1989; Turkey, Sporades, Rhodes.
Majer, 1989: 143, 145; figs 13, 14, 47, 62, 77.
20. *brevicornis*, spec. nov.; Turkey.
21. *emgei* (Reitter, 1884); Greece.
Dasytiscus Emgei Reitter, 1884: 79.

4. *medius*-group

The uniform phallus, internal sac and female copulatory organs make this group the best definable one of all *Dasytidius*.

22. *petrowi* (Pic, 1923); Egypt, Libya.
Dasytiscus (Dasytidius) Petrowi Pic, 1923: 9.
23. *melitensis* (Bourgeois, 1885); Malta, Sicilia.
Dasytiscus melitensis Bourgeois, 1885: 256, 270.
24. *medius* (Rottenberger, 1871); Algeria, Tunisia, Morocco.
Dasytiscus medius Rottenberger, 1871: 244.
Dasytiscus obesus Kiesenwetter, 1871: 85 (note 1).
Dasytiscus pexus Kiesenwetter, 1871: 85.
Dasytiscus squamatus Kiesenwetter, 1871: 86.
Dasytiscus Beckeri Kiesenwetter, 1871: 86.
Dasytiscus Sedilloti Bourgeois, 1885: 256, 268; fig. 4.
Dasytiscus Theresae Pic, 1896: 48.
25. *normandi* Majer, 1990; Tunisia.
Majer, 1990: 40, 43; figs 3, 35, 49, 62.
26. *crenulatus* (Pic, 1925); Libya.
Danacaea crenulata Pic, 1925a: 3.
Dasytiscus convexus Pic, 1928: 103.
27. *diversimembris* (Pic, 1937); Algeria, Morocco.
Dasytiscus diversimembris Pic, 1937: 52.
Dasytiscus (Dasytidius) diversipes Pic, 1922: 30 (nec *Dasytiscus atrotibialis* var. *diversipes* Pic, 1917).

28. *constantini* Majer, 1990; Morocco.
Majer, 1990: 40, 46; figs 7, 32, 52, 66.
29. *otini* Majer, 1990; Morocco.
Majer, 1990: 40, 47; figs 8, 24, 37, 53, 67.
30. *deportatus* (Peyerimhoff, 1929); Algeria (Central Sahara).
Dasytiscus deportatus Peyerimhoff, 1929c: 194.

5. *vestitus*-group

This group is closely related to the *rufimanus*-group, particularly to the species 45-47, which are those the *rufimanus*-group is possibly derived from.

31. *vestitus* (Kiesenwetter, 1863); Algeria, Morocco, Tunisia.
Dasytiscus vestitus Kiesenwetter, 1863: 625 (Note 2).
Dasytiscus (Dasytidius) vestitus var. *Henoni* Pic, 1900: 88.
32. *bourgeoisii* (Schilsky, 1896); Spain (?), Morocco.
Dasytiscus (Dasytidius) Bourgeoisii Schilsky, 1896: No.72.
33. *pardoi* Majer, 1990; Morocco.
Majer, 1990: 40, 49; figs 11, 27, 38, 71, 83.
34. *gracilis* (Escalera, 1914); S Algeria, Morocco.
Dasytiscus gracilis Escalera, 1914: 246.
35. *syrticus* (Bourgeois, 1885); Sicilia, Tunisia.
Dasytiscus syrticus Bourgeois, 1885: 256, 266.
Dasytiscus (Dasytidius) neglectus Schilsky, 1897: No.84.
36. *wartmanni* (Reitter, 1897); Algeria.
Dasytiscus Wartmanni Reitter, 1897: 219.
Dasytiscus (Dasytidius) nigrofemoratus Schilsky, 1897: No.76.
37. *ragusai* (Procházka, 1895); Algeria, Libya, Sicilia, Tunisia.
Dasytiscus Ragusae Procházka, 1895: 139.
Dasytiscus (Dasytidius) Gestroi Schilsky, 1897: No.75.
Dasytiscus Ragusae Schilsky, 1900: No.2. [New species].

6. *rufimanus*-group

A very heterogeneous group at the first glance, but according to the sequence of the species below, some transformation series of both the tegmen and phallus are evident. Most genera of the Chaetomalachiinae occur in the Central Asian region. It is why the *rufimanus*-group may be the most ancestral one, possibly including predecessors of the other groups.

38. *ugamicus* Majer, 1991; Uzbekistan.
Majer, 1991b: 3, 19; figs 3, 34, 49, 50, 71, 85.
39. *sequensi* (Reitter, 1902); Armenia, Kazakhstan.
Dasytiscus (Haplothrix) Sequensi Reitter, 1902: 210.
40. *kubani* Majer, 1991; Armenia.
Majer, 1991b: 10, 17; figs 12, 92.
41. *rufimanus* (Bourgeois, 1885); Uzbekistan, Tajikistan.
Dasytiscus rufimanus Bourgeois, 1885: 256, 269.
Dasytiscus (Dasytidius) rufimanus var. *atripes* Schilsky, 1896: No.79.
42. *margelanus* Majer, 1991; Tajikistan.
Majer, 1991b: 5, 18; figs 7, 23, 38, 53, 70.

43. *hauseri* (Reitter, 1890); Uzbekistan.
Dasytidius Hauseri Reitter, 1890: 360.
44. *candidus* Majer, 1991; Afghanistan.
Majer, 1991b: 7, 18; figs 9, 37, 55, 73.
45. *marsaleki*, spec. nov.; Kirghizia.
46. *tajikistanus* Majer, 1991; Tajikistan.
Majer, 1991b: 9, 19; figs 11, 40, 57, 72, 91.
47. *turnai*, spec. nov.; China (Yunnan).

7. *transversus*-group

The two species classified here are closely allied and distinctly derived from the *persicus*-group.

48. *transversus* Majer, 1991; Iran.
Majer, 1991b: 14, 19; figs 15, 18, 44, 63, 80, 95.
49. *quaesitus* Majer, 1991; Iran.
Majer, 1991b: 15, 16; figs 19, 45, 64, 81.

8. *persicus*-group

It is placed near the *rufimanus*-group as some species interfere to the latter but they should be still recognizable by the more truncate apex of the phallus and two different kinds of spines in the internal sac.

50. *subnudus* Majer, 1991; Iraq, Israel, Jordan, Syria.
Majer, 1991a: 9; figs 14, 42, 58, 72, 93.
51. *infinitus* Majer, 1991; Syria, Turkey.
Majer, 1991a: 11; figs 16, 28, 44, 61, 81, 95.
52. *longiventris* Majer, 1991; Iran.
Majer, 1991b: 10, 19; figs 13, 41, 58, 74, 75, 93.
53. *persicus* (Pic, 1926); Iran.
Dasytiscus (Dasytidius) persicus Pic, 1926: 1.
54. *robustus* Majer, 1991; Iran.
Majer, 1991b: 12, 17; figs 16, 26, 43, 60, 79.
55. *opertus* Majer, 1991; Iran.
Majer, 1991b: 15, 17; figs 20, 96.
56. *princeps* Majer, 1991; Iran, Iraq.
Majer, 1991a: 14; figs 19-21, 30, 46, 60, 73, 74, 96.
57. *virescens* (Baudi, 1873); Cyprus.
Dasytiscus virescens Baudi, 1873: 319.
58. *quadricollis* (Schilsky, 1896); Iran.
Dasytiscus (Dasytidius) quadricollis Schilsky, 1896: Nos. 75, 34 L.
59. *funbris* Majer, 1989; Turkey.
Dasytidius funbris Majer, 1989: 153, 154; figs 29, 30, 73, 86, 87.

9. *indutus*-group

This Balkanic group with autapomorphic structure of the internal sac is well defined and distinctly derived from the *persicus*-group.

- 60. *indutus indutus* (Kiesenwetter, 1859); Greece (continental).
Dasytiscus indutus Kiesenwetter, 1859: 173.
- 61. *indutus dalmatinus* Majer, 1989; Croatia.
Majer, 1989: 152; fig 71.
- 62. *indutus aegaeicus* (Liberti, 1986); Greece (Crete, Aegean Islands).
Dasytiscus indutus aegaeicus Liberti, 1986: 188, figs 6-8.
- 63. *indutus similis* (Schilsky, 1896); Cyprus, Turkey.
Dasytiscus (Dasytidius) similis Schilsky, 1896: No.77.
- 64. *malkini*, spec. nov.; Turkey.
- 65. *impar*, spec. nov.; Turkey.

10. *sudanicus*-group

It is a more ancestral group than the *atrimembris*-group as the phallus is more slender and tegmen is not dilated at base.

- 66. *muehlei*, spec. nov.; Yemen.
- 67. *sudanicus* (Pic, 1929); Sudan.
Dasytiscus sudanicus Pic, 1929: 138.
- 68. *endroedyi*, spec. nov.; Ghana.

11. *atrimembris*-group

This group with mostly bulky species is derived from the *persicus*-group. *D. wittmeri* is the most primitive member from the transformation series of the tegmen where the base is not yet so dilated. It may be a connecting link to the *sudanicus*-group. Some species (e.g. Nos. 71, 73) have the most modified terminalia of the whole genus.

- 69. *wittmeri* Majer, 1991; Saudi Arabia.
Majer, 1991a: 13; figs 18, 75.
- 70. *addilaensis* (Wittmer, 1979); Saudi Arabia, Yemen.
Dasytiscus (Haplothrix) addilaensis Wittmer, 1979: 191.
- 71. *clarkei*, spec. nov.; Ethiopia.
- 72. *desaegeri* (Pic, 1954); Zaire.
Dasytiscus De Saegeri Pic, 1954: 211.
- 73. *atrimembris* (Pic, 1925); Ethiopia.
Dasytiscus atrimembris Pic, 1925b: 17.
Dasytiscus Scotti Wittmer, 1954: 136.

12. *incertae sedis*

- 74. *licenti* (Pic, 1938); China.
Dasytiscus Licenti Pic, 1938: 162.

Descriptions of new species

Dasytidius insularis, spec. nov.

Figs 1-4

Types. Holotype: ♂, "Lesvos-Greece Mytilini; 1959.VIII.2. Dr. Gozmány" (HNHM). - Paratypes: 26, same data (18 HNHM, 8 KMBC).

Differs from *D. fulvipes* in pubescence and male terminalia.

Upper surface without distinct metallic lustre (which is light-greenish in *D. fulvipes*), legs rufotestaceous, tarsi more or less infusate, mouth parts and antennal scape black, segments 2-5 (often 2-8) rufotestaceous, then gradually darkened. Integument with very dense texture, semi-mat, pubescence greyish, long, almost dense, semi-villose (denser and longer than in *D. fulvipes*), with subseriately intermixed setae on elytra; pronotum with distinct marginal fringe.

Head with fine coriaceous texture, eyes moderately prominent; antenna short, segments 5-10 always strongly transverse, subserrate. Pronotum subarcuate at base, broadest across basal third, sides nearly straight and narrowing forwards, apex straight; upper surface with coriaceous texture, semi-mat, side margins with reduced irregular denticles; pubescence arranged towards a point near base; marginal fringe irregular, long. Elytra with dense and shallow, rather indistinct puncturation and transverse wrinkles; sutural angles scarcely rounded; marginal fringe more or less distinct.

♂. Length 2.3-2.5 mm, width 0.8-0.9 mm. Antennal joints less transverse; elytra parallelsided, subtruncate at apex, sutural angles slightly rounded respectively. Pygidium nearly 3 × wider than long, suboblong in outline; sternum VII nearly straight at apex, only weakly emarginate and impressed; VIII with median process forked at base (Fig. 1). Spicular fork with fine walls, spiculae subangulate, nearly as long as fork proper; tegmen very slender (Fig. 2); phallus in side view (Fig. 3) subsinuate at apex, tip briefly incurved; internal sac without distinct spinules.

♀. Length 3.0-3.2 mm, width 1.1-1.3 mm. Antennal joints more transverse; elytra broadening, more rounded at apex, sutural angles more rounded. Pygidium nearly semicircular, apex briefly incised. Sternum VII scarcely produced at apex; seminal canal long, membranous (Fig. 4).

Distribution. Greece: Aegean Islands (Lesvos).

Dasytidius inchoatus Majer, 1991

Fig. 5

This species was described from males only. I am giving here a picture of unusually shaped internal organs in a female specimen from Crete (Fig.5).

Dasytidius crassicornis, spec. nov.

Figs 6-9

Holotype: ♂, "Dr Lenthnur, Djebel Aevi, N. Syrien" (NHMB).

Small, slender species resembling *D. syriacus* Reitt. but antenna extremely robust.

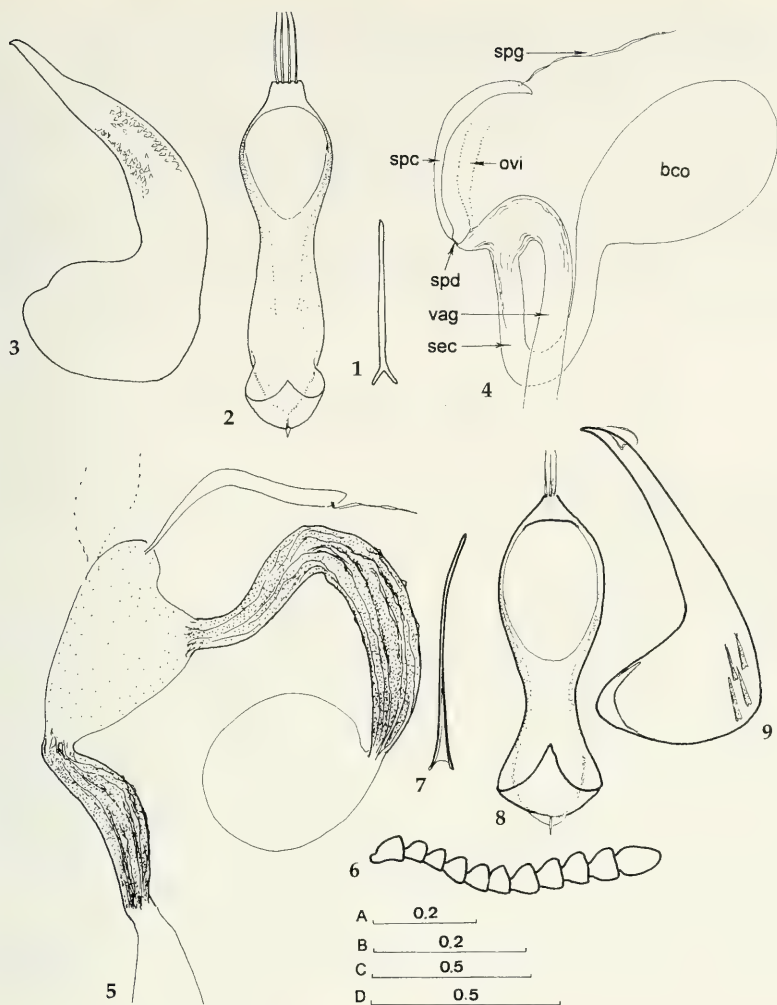
Coloration black, with metallic reflexes, extremities rufotestaceous, femora, scape, distal antennal half and mouthparts infusate. Pubescence apparently dual, more and less decumbent hairs present, integument with very fine texture.

♂. Length 2.2 mm, width 0.7 mm. Head big with bulging eyes, head surface finely coriaceous; antenna long with robust segments, these mostly transverse (Fig. 6). Pronotum transverse, as wide as head and slightly narrower than elytra, base arcuate, sides nearly straight, disc polished, nearly impunctate, sides finely coriaceous, marginal denticles small and reduced, marginal bristles distinct. Elytra indistinctly bordered along side margins, puncturation indistinct, with fine, rather coriaceous, texture.

Pygidium nearly semicircular; sternum VII weakly tapered; VIII with process swollen at base (Fig. 7); spicular fork with fine walls, spiculae curved; tegmen slender (Fig. 8); phallus in side view (Fig. 9) with large base and very slender, incurved body, internal sac with 4 slender spinules.

♀. Unknown.

Distribution: Syria.



Figs 1-9. 1-4. *Dasytidius insularis*, spec. nov. (1-3. ♂ Holotype). 5. *D. inchoatus* Majer, ♀. 6-9. *D. crassicornis*, spec. nov., ♂ Holotype. 1, 7. Median process of sternum VIII. 2, 8. Tegmen ventral. 3, 9. Phallus ventral. 5. ♀ copulatory organ. 6. Antenna. bco: bursa copulatrix, ovi: oviduct, sec: seminal canal, spc: spermathecal capsule, spd: spermathecal duct, vag: vagina. Scales: A = Figs 1-3, 5; B = 7-9; C = 4; D = 6.

***Dasytidius recticollis*, spec. nov.**
Figs 10-14

Holotype: ♂, "Dr. F. Leuthner, Djebel Akrab, 85, N. SYRIEN" (KMBC).

Similar to *D. optivus* Majer but differs from all *Dasytidius* species by distinctively oblong pronotum and strongly transverse antennal segments.

Coloration black, upper surface lustrous, with greenish tinge, legs rufotestaceous (but the Holotype has preserved middle femora only), scape piceous, segments 2-3 rufotestaceous, 4-11 gradually dark-

ened, but bases of all segments pale. Upper surface indistinctly punctate, with fine and dense microsculpture, pubescence unicolorous, greyish, and dual.

♂ (Fig. 10). Length 2.6 mm, width 0.9 mm. Head with moderately prominent big eyes, surface with indicated puncturation, with dense rugosity and microsculpture, semi-mat; antennal segments 5-10 distinctively transverse. Pronotum transversely oblong, sides nearly straight, side margins regularly crenate; disc indistinctly punctate, texture somewhat rasp-like, intervals polished, pubescence as in other *Dasytidius* species; marginal fringe distinct. Elytra indistinctly bordered, apex subtruncate, sutural angles scarcely rounded, surface indistinctly punctate, finely and transversely wrinkled, with microsculpture; pubescence moderately dense, scarcely dual, more erect hairs not well defined.

Pygidium nearly trapeziform, sternum VII slightly tapered, apex lightened; VIII with median process forked at base (Fig. 11). Spicular fork with arched spiculae (Fig. 12), fork proper rather short; tegmen shown (Fig. 13); phallus in side view (Fig. 14) resembles that in *D. optivus* Majer.

Distribution: Syria.

Dasytidius brevicornis, spec. nov.

Figs 11-15

Types. Holotype: ♂, "Bergama (ancient Pergamon), 18-21.V.1981, B. Malkin" (RCSL, will be deposited in MNHN). - Paratypes: 8, same data (RCSL); 1, ditto, 16-17.VI.1979, B & H. Malkin (KMBC); 3, "Turkey, ancient Priene, 13.V.1979, B. Malkin" (1 KMBC, 2 RCSL).

Very closely allied to *D. congruens* Majer, differing in large size, completely black extremities, but chiefly in the structure of terminalia.

Upper surface with indistinct plumbeous lustre being well covered with greyish pubescence; extremities black, only tibia and tarsi sometimes more or less infusate, antennal segments 2-3(-6) more or less infusate to rufopiceous. Integument with fine, not very dense texture, partly lustrous, elytra more or less distinctly punctate; pubescence at first sight single but more erect hairs mostly intermixed (in *D. congruens* such hairs lack and thus it seems to belong in *Haplothrix*).

Head with large, well prominent eyes (in both sexes), surface with fine coriaceous texture but almost lustrous; antenna very short, with transverse terminal segments. Pronotum strongly transverse, base and sides arcuate, apex straight, side margins very finely bordered, marginal denticles strongly reduced, disc with texture often sparser than on head, pubescence arranged towards an arched prebasal line and a point close to base; marginal fringe distinct. Elytra distinctly, very densely and shallowly punctate, punctures forming transverse wrinkles; pubescence dense, fine, semi-villose; suberect subseriate hairs distinct to imperceptible; marginal fringe scarcely distinct as overlapped by suberect hairs and strong convexity of elytra; sutural angles more or less rounded.

♂ (Fig. 11). Length 2.8-3.3 mm, width 0.9-1.1 mm. Antennal segments more robust and less transverse, elytra evenly convex. Pygidium roundly trapeziform, apex arcuate; sternum VII briefly produced at apex, VIII with moderately long median process swollen at base (Fig. 12); tegmen and phallus (Figs 13, 14) similar to those in *D. syriacus* Reitt; internal sac with 6-7 larger spinules.

♀. Length 2.8-3.4, width 1.0-1.2 mm. Antennal segments finer and more transverse, elytra widening and more convex posteriorly. Pygidium with strongly converging sides, apex arcuate and briefly emarginate; apex of sternum VII weakly tapered, seminal canal well sclerotized (Fig. 15).

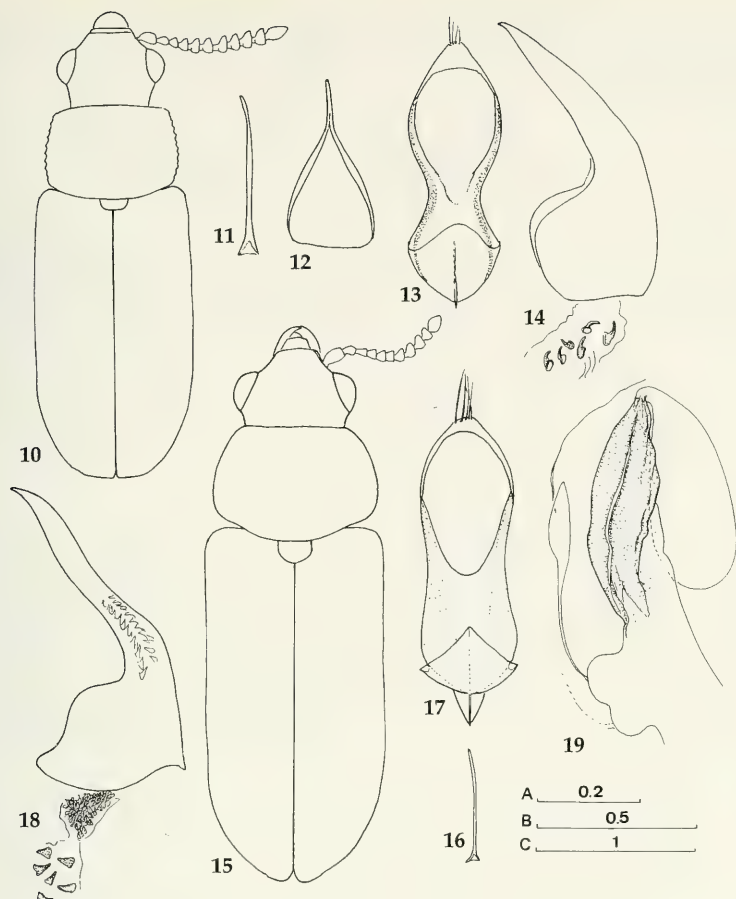
Distribution: Turkey.

Dasytidius marsaleki, spec. nov.

Figs 20-24

Types. Holotype: ♂, "USSR, Kirghizia, 16.7.88, Sary-Chelek reserv. (SW of Kara-kul), V.Kubán leg." (ZSMC). - Paratypes: 1♀ (ZSMC), 84 (KMBC).

Related to *D. tajikistanus* Majer from which it is easily distinguished in the combination of deep violaceous to bronze lustre, conical pronotum, rufotestaceous tibiae and tarsi and short, suberect, fuscous pubescence.



Figs 10-19. 10-14. *Dasytidius recticollis*, spec. nov., ♂ Holotype. 15-19. *D. brevicornis*, spec. nov. (15-18. ♂ Holotype). 10, 15. Body outline. 11, 16. Median process of sternum VIII. 12. Spicular fork. 13, 17. Tegmen ventral. 14, 18. Phallus lateral. 19. ♀ copulatory organs. Scales: A: Figs 11, 13, 14, 17, 18; B: 12, 16, 19; C: 10, 15.

Black, with deep violaceous-bronze lustre; knees, tibiae, tarsi, antennal segments 2-3(-4) rufotestaceous, basal portion of femora more or less infusate. Integument very finely and densely punctate, pubescence very short, suberect, fuscous.

Head with fine, moderately dense punctures; antennal segments fine, 4-10 subtriangular, 11 nearly as long as 9 and 10 together. Pronotum transverse, conical, base arcuate, sides straight, disc as punctate as head, sides coriaceous, perimeter very finely bordered; side margins with regular small denticles, each bearing short black seta, forming together marginal fringe. Elytra very finely, inconspicuously punctured, rather transversely wrinkled, pubescence longer and thicker than that on pronotum, marginal fringe not well defined, side margins very finely bordered, apex slightly explanate, sutural angles slightly rounded respectively.

♂. Length 2.6-3.2 mm, width 1.0-1.1 mm. Pronotum narrower, extremities longer and thicker. Pygidium subtrapeziform; sternum VII with subarcuate apex; VIII with long median process (Fig. 20); spicular fork slender (Fig. 21); tegmen shown, (Fig. 22); phallus in side view robust (Fig. 23), internal sac with two rows of spinules diminishing distad.

♀. Length 3.1-3.7 mm, width 1.3-1.5 mm. Pronotum wider, extremities shorter and more slender. Pygidium trapeziform, apex shallowly incised; hind margin of sternum VII straight; spermathecal canal sclerotized (Fig. 24).

Distribution: Kyrgyzstan.

***Dasytidius deportatus* (Peyerimhoff) comb. nov.**

Figs 25-29

Dasytiscus deportatus Peyerimhoff, 1929: 194.

Types. Lectotype: ♀, "Haut Oued In Dalay Hoggar, v. 2250 m, 21 mars 1928, fl. d' *Euphorbia*... [illegible]" (Peyerimhoff's MS); "MISSION DU HOGGAR FÉVRIER-MAI 1928" (printed, white label with black margin); "*Dasytiscus deportatus* Peyerimhoff types ♂, ♀" (olivaceous label, Peyerimhoff's MS) (MNHN). - Paralectotype: 1♀, same data (MNHN).

Isolated species, whose relation to the *medius*-group is not quite clear but its shape makes it near to *D. convexus* Pic etc.

Weakly sclerotized. Black, upper surface with olivaceous-bronze lustre, extremities mostly dark-brown but never black; integument not punctured, with very dense texture only, weakly lustrous; pubescence dense, dual and bicolorous.

♂. Unknown.

♀ (Fig. 25). Length 2.9-3.3 mm, width 1.0-1.3 mm. Eyes not prominent, head surface with dense, scabrose and granular texture, antennal segments 6-10 (Fig. 26) submoniliform. Pronotum weakly transverse, base subarcuate, sides arcuate; texture as dense as on head; side margins scarcely crenate, lateral fringe fine; pubescence of surface pointing from sides towards middle; converging point not clear. Elytra broadly rounded respectively at apex, humerus not very prominent, side margins finely bordered; surface with fine dense texture having no distinct punctures but rather transverse wrinkles, intervals among them with coarse microsculpture, pubescence dual and bicolorous: (a) whitish suberect hairs shorter than (b) dark, hirsute longer and thicker bristles, the latter not subseriatly admixed but are as dense as the whitish ones; lateral fringe distinct at hind elytral portion. Membranous wings abbreviate, neither functional nor foldable, nervature reduced, bearing no essential *Dasytidius* characters (Fig. 27).

Pygidium (Fig. 28) rather semicircular; hind margin of sternum VII nearly semicircular, apex weakly emarginate; seminal duct (Fig. 29) not sclerotized but its structure comports with that in many *Dasytidius* species.

Distribution: S Algeria (Hoggar).

Remarks. Peyerimhoff supposed the two specimens to be a male and female (there is some difference in the body outline). They were originally mounted onto a common card but are separated now. The abbreviate membranous wings have no analogy in the *Dasytidae* known to me.

***Dasytidius sudanicus* (Pic), comb. nov.**

Figs 30-33

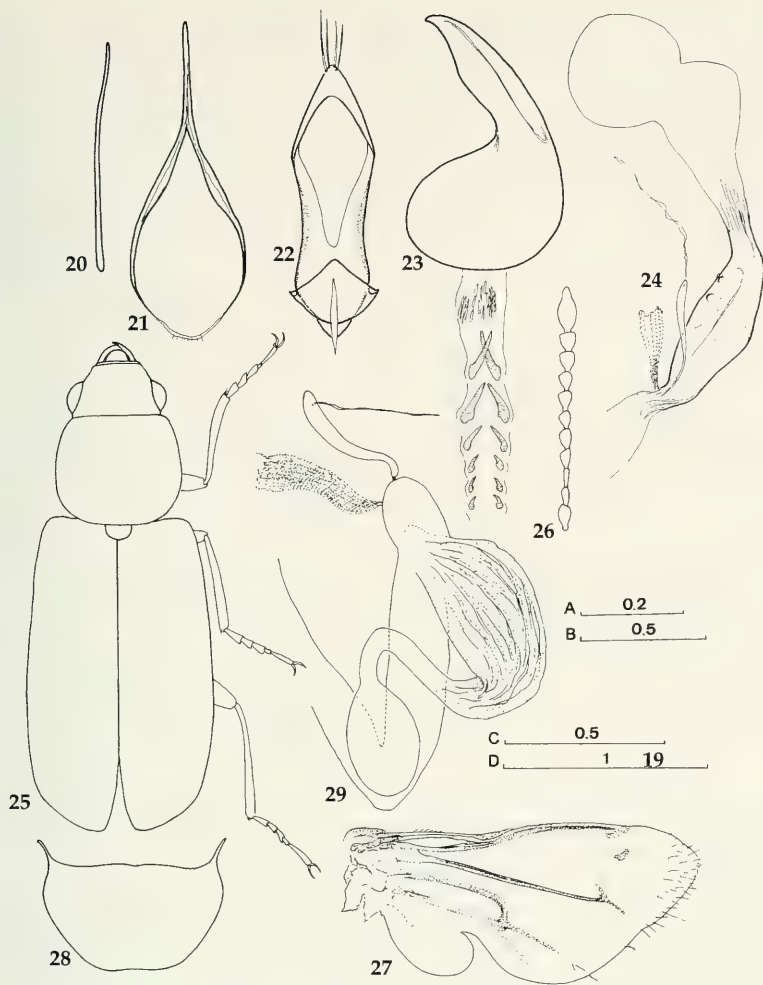
Dasytiscus sudanicus Pic, 1929: 138.

Types. Lectotype: ♂, "Sudan Govt." (printed); "GRF Medani H. W. Bedford, 15.10. 26, on cotton" (handwritten); "WTRL Ent. Col. C. 364" (white label, black margin); "*Dasytiscus sudanicus* n. sp." (Pic's MS); "gardé 1" (Pic's MS); "type" (circular with red margin) (BMNH). - Paralectotype: 1♀, labelled as Lectotype but "6.10.26 on Ads", and, "un ou Br. Museum de forme plus allongée" (Pic's MS) (MNHN).

Species of rather isolated position nevertheless belonging close to *D. endroedyi*, spec. nov.

Sexes unlike. Coloration brown to piceous, legs completely and antenna partly (segments 2 and 3) testaceous. Integument with very fine texture, semi-mat; vestiture whitish, fine, short and even, nearly decumbent, somewhat more erect hairs may be found along elytral sides; lateral fringe distinct on pronotum only.

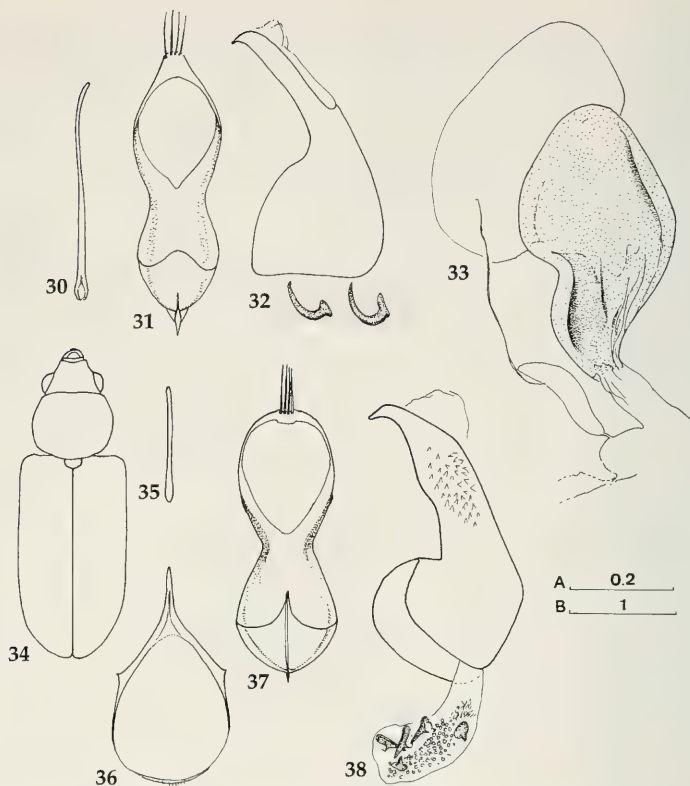
Head with moderately prominent eyes, head surface with fine puncturation, nearly polished. Pronotum transverse, broadest at basal third, base and apex nearly straight, sides slightly converging



Figs 20-27. 20-24. *Dasytidius marsaleki*, spec. nov. (20-23. ♂ Holotype). 25-27. *D. deportatus* Peyerimhoff, ♀ Lectotype. 20. Median process of sternum VIII. 21. Spicular fork. 22. Tegmen ventral. 23. Phallus lateral. 24, 29. Internal copulatory organs. 25. Body outline. 26. Antenna. 27. Wing. 28. Pygidium (all setae omitted). Scales: A: Figs 20-23; B: 26, 27; C: 28, 29; D: 24, 25.

anteriorly; disc with very fine and moderately dense punctures, intervals with indistinct texture, rather lustrous; pubescence arranged towards a point near base; lateral fringe distinct. Elytral suture bordered along distal half, apex subtruncate, apices rounded respectively; upper surface with indistinct fine punctures and transverse wrinkles, intervals with distinct microsculpture.

♂. Length 2.3 mm, width 0.8 mm. Eyes more prominent. Antenna longer, segments thicker, 5-10 submoniliform. Pronotum less transverse, distinctly narrower than elytra, sides more arcuate. Elytral apex more rounded. Pygidium nearly semicircular to weakly trapeziform; sternum VII subarcuate; VIII with long and slender median process (Fig. 30); spicular fork with thick walls and incurved apex of fork proper; tegmen (Fig. 31) constricted across middle, its both base and apex subovate; phallus in side view (Fig. 32) with two large, slender, spines.



Figs 30-38. 30-33. *Dasytidius sudanicus* (Pic) (30-32. ♂ Lectotype). 33-38. *D. muehlei*, spec. nov., ♂ Holotype. 30, 35. Median process of sternum VIII. 31, 37. Tegmen ventral. 32, 38. Phallus lateral. 33. ♀ copulatory organs. 34. Body outline. 36. Spicular fork. Scales: A: Figs 30-33, 35-38; B: 34.

♀. Length 2.6 mm, width 1.0 mm. Eyes less prominent. Antenna shorter, segments 8-10 more or less transverse, almost narrower than elytra, sides less arcuate. Elytral apex more attenuate. Pygidium nearly semicircular, apex weakly emarginate; sternum VII scarcely produced in middle; seminal canal (Fig. 33) sclerotized, with two peculiar formations.

Distribution: Sudan.

Dasytidius muehlei, spec. nov.

Figs 34-38

Types. Holotype: ♂, "YEMEN/ Sana'a, Wadi Dor, 31.5.1978, leg. H. Mühle" (RCSL, will be deposited in MNHN).

Very closely allied to *D. wittmeri* Majer differing in dark legs and greyish pubescence.

Black, upper surface with dark metallic lustre, tibiae and tarsi rufopiceous. Integument with very dense texture, semi-mat, pubescence nearly single, very fine and short, moderately dense, greyish hairs subdecumbent, indistinctly intermixed with suberect ones on elytra.

♂ (Fig. 34). Length 2.9 mm, width 1.0 mm. Head with big, prominent eyes, head surface with irregular coriaceous sculpture, antennal segments 4-10 distinctly serrate and more or less transverse, 6 and 8 not distinctly smaller than adjoining. Pronotum distinctly narrower than elytra at base, base and sides

arcuate, apex straight, disc with texture as on head, side margins finely denticulate, marginal fringe weakly defined; surface with pubescence arranged towards a point close to base. Elytra strongly convex, with shallow and dense but indistinct punctures forming transverse wrinkles, intervals with microsculpture; side margins finely bordered, bordering visible along apical elytral third only as two anterior thirds are very strongly convex; apex subtruncate, sutural angles weakly obtuse.

Pygidium trapeziform, apex emarginate; sternum VII with arcuate hind margin, VIII with very short simple median process (Fig. 35); spicular fork with angled spiculae (Fig. 36), fork proper very short; tegmen (Fig. 37) with round both base and apex, the latter briefly emarginate; phallus (Fig. 38) with beak-shaped apex; internal sac with several large spinules.

♀. Unknown.

Distribution: Yemen.

Dasytidius endroedyi, spec. nov.

Figs 39-44

Types. Holotype: ♂, "Ghana: Northern region, Savelugu, 30 km N of Tamale, Dr. S. Endrödy-Younga; Nr 438, netted, 26.X.1970" (HNHM). - Paratypes: 1, with data as holotype (KMBC); 1, "Ghana: Upper region, Tumu, N 10° 108', W 2° 100', Dr. S. Endrödy-Younga; Nr 487, netted, 27.X.1971" (HNHM); 1, "Musée du Congo, Kiambi, 4.V.1931, G.F. de Witte"; "R.DÉT. S 3115" (MRAC).

Species with bulging eyes, constricted head and small transverse pronotum, closely allied to *D. sudanicus* Pic.

Piceous to black, upper surface semi-mat, with indistinct metallic reflexes, extremities testaceous to fuscous; mouthparts (excepting lightened apex of terminal maxillary segment), antennal scape and apical half darkened, tarsi and femora sometimes more or less infuscate. Integument with nearly single light pubescence, which is composed of fine, not dense and more or less decumbent hairs.

Head nearly impunctate, with coriaceous texture only; eyes bulging, head constricted beyond them, antennal segments 5-10 transverse. Pronotum small, strongly transverse, base arcuate, sides more or less converging anteriorly, upper surface with coriaceous texture as head or disc more glabrous and surface coriaceous at sides only; pubescence as in *D. sudanicus*, marginal denticles small but distinct, each bearing longer seta. Elytra finely bordered along side margins, tips rounded respectively, upper surface with more or less defined shallow punctures.

♂ (Fig. 39). Length 2.3-2.4 mm, width 0.8 mm. Slender, antennal segments 4-6 strongly transverse, situated obliquely to antennal axis. Pronotum smaller and more transverse. Extremities long and stout. Pygidium nearly semicircular; sternum VII scarcely emarginate and somewhat impressed at apex; VIII divided into two, median process slender and short (Fig. 40); spicular fork (Fig. 41) with fine walls; tegmen (Fig. 42) slender, resembling that in *D. sudanicus*; phallus in side view (Fig. 43) arched, with incurved tip; internal sac with one large spine.

♀. Length 2.9 mm, width 1.0 mm. Wider, antennal segments 4-6 not very different from neighbouring, pronotum bigger, less transverse, sides arcuate. Extremities more slender, shorter. Pygidium triangular, apex rounded; sternum VII briefly produced; seminal canal (Fig. 44) weakly sclerotized, fluently passing into bursa copulatrix, the latter well defined.

Distribution: Ghana.

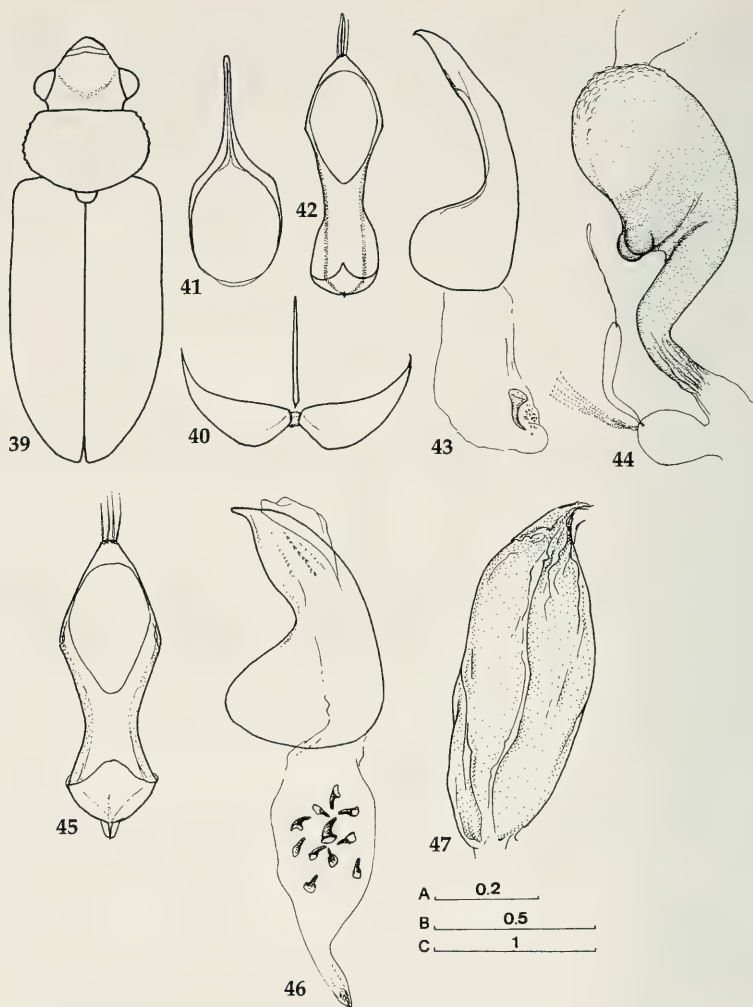
Dasytidius turnai, spec. nov.

Figs 45-47

Types. Holotype, ♂, "China, Shaanxi 1992 120 km E Xi an Hua Shan, 3.-4. VI. Jaroslav Turna leg." (KMBC). - Paratypes: 4♂♂, 3♀♀, same data (KMBC).

Species of rather isolated position, most closely related to *D. tajikistanus* Majer but the strongly transverse pronotum is much narrower than elytra, antennal segments are not transverse.

Black, shiny, with weak aeneous lustre, head and pronotum rather finely coriaceous. Pubescence white, subdecumbent, rather sparse, pronotum and elytra with irregular sparse lateral fringe. Extremities rufotestaceous, antennal scape and segments 3(5) onwards darkened. Antenna approximately twice longer than pronotum, segments 2-3 and 11 elongate, 4-10 never distinctly transverse, 8 indistinctly



Figs 39-47. 39-44. *Dasytidius endroedyi*, spec. nov. (39-43. ♂ Holotype). 45-47. *D. turnai*, spec. nov. (45, 46. ♂ Holotype). 39. Body outline. 40. Sternum VIII. 41. Spicular fork. 42, 45. Tegmen ventral. 43, 46. Phallus lateral. 44, 47. ♀ copulatory organs. Scales: A: Figs 40-43, 45-47; B: 44; C: 39.

smaller than neighbouring. Head with moderately prominent eyes. Pronotum distinctly narrower than elytra across humeri, about one sixth broader than long, base arcuate, sides subconical, apex straight, hairs converging in middle near base. Elytra jointly rounded at apex, sutural angles more or less rounded respectively.

♂. Length 3.0-3.3 mm, width 1.0-1.2 mm. Parallel-sided. Antenna longer, segments weakly elongate, sutural angles weakly prominent. Pygidium about one third broader than long, weakly emarginate. Sternum VII almost straight, VIII with filiform median projection which is one third shorter than width of sternum proper. Spicular fork fine; tegmen (Fig. 45) resembles that in *D. indutus*; phallus in side view (Fig. 46) robust, with claw-like apex; internal sac with 10-12 spinules.

♀. Broadening posteriorly. Antenna shorter, segments not elongate, sutural angles more rounded.

Pygidium almost semicircular. Sternum VII straight, VIII narrowly crescent, seminal canal sclerotized, ovate in outline (Fig. 47).

Distribution: China (Yunnan).

Dasytidius malkini, spec. nov.

Figs 48-54

Types. Holotype: ♂, "TURKEY; ancient MYRA, (Antalya prov.), 8.V.1981, B. Malkin" (RCSL, will be deposited in MNHN). - Paratypes: 3♀, same data (2 RCSL, 1 KMBC).

Very near to *D. indutus* Kiesw. but pronotum extraordinarily transverse.

Upper surface scarcely with greenish lustre, legs and antennal segments 2-3(-5) rufescent. Integument with very fine texture, impunctate, dull; pubescence yellowish, semi-villose, long, dense, clearly dual on elytra; marginal fringe poorly marked on pronotum, not distinctive (but very long) on elytra.

Head with coriaceous texture but weakly lustrous, eyes moderately prominent; antenna with subserrate segments, penultimate ones always transverse. Pronotum strongly convex, extraordinarily transverse, base arcuate, hind corners completely rounded, apex straight; upper surface as on head; marginal denticles very dense and regular; lateral fringe long and striking; pubescence semi-erect at sides, arranged towards a point very close to base. Elytra impunctate, with shallow dense, transverse wrinkles and microsculpture, semi-villose pubescence consists of more and less decumbent hairs, the latter subseriatly intermixed, marginal fringe not well different from surface pubescence but visible, very long; tips jointly rounded, sutural angles slightly rounded.

♂ (Fig. 48). Length 3.6 mm, width 1.3 mm. Antennal segments transverse from 4. Pronotum very broadly subtrapeziform, sides straight. Pygidium trapeziform, apex subarcuate; sternum VII subarcuate at hind margin, VIII with very long and simple median process (Fig. 49); spicular fork guttiform in outline (Fig. 50); tegmen as in *D. indutus*, tip briefly emarginate (Fig. 51); phallus in side view very robust (Fig. 52); internal sac with very complex structure.

♀. Length 3.7 mm, width 1.3 mm. Antennal joints transverse from 5. Pronotum strongly rounded at sides. Pygidium nearly semicircular; sternum VII briefly produced; seminal canal (Figs 53- 54) with distinctive structure.

Distribution: Turkey.

Dasytidius impar, spec. nov.

Figs 55-59

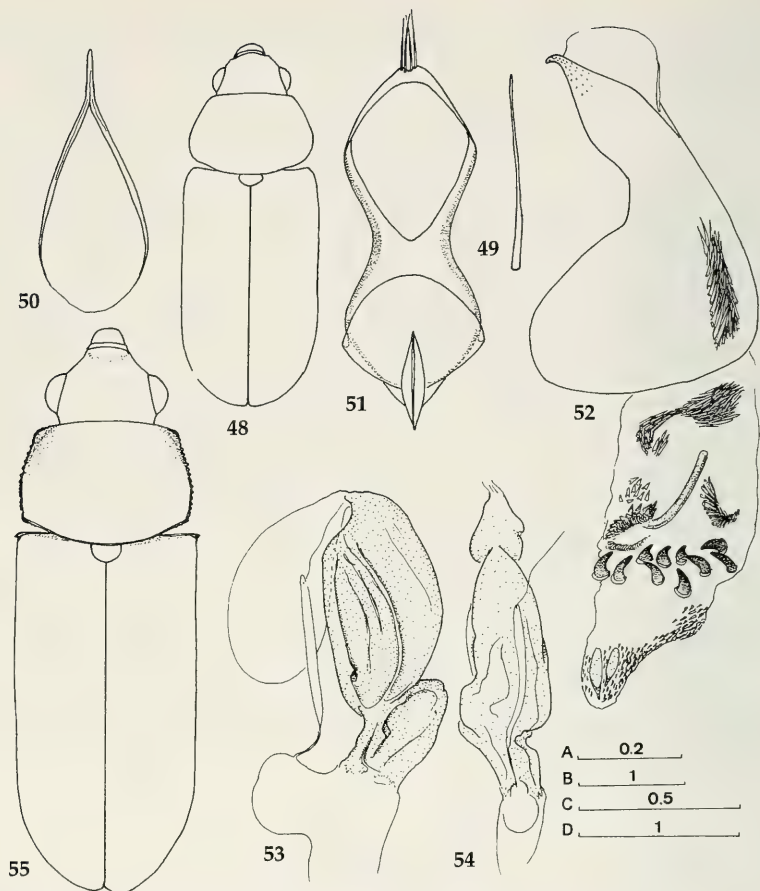
Types. Holotype: ♂, "TURKEY: Alanya, 24.V.1979, B. Malkin" (RCSL, will be deposited in MNHN). - Paratypes: 15, same data (3 KMBC, 12 RCSL).

Species belonging in the *D. indutus*-group, especially to *D. funebris* Majer but habitually most resembling *D. virescens* Baudi in suboblong shape of pronotum and toothed humeri.

Black, upper surface with feeble plumbeous lustre but coloration is partly formed by dense greyish pubescence; extremities completely black, tibiae and tarsi seldom rufescent. Integument with dense and fine coriaceous texture, semi-mat; pubescence greyish to yellowish, semi-villose, clearly dual overall body upper surface.

Head with coriaceous texture, mat, eyes more or less prominent, antennal segments 4(5)-10 subserrate, transverse, 6 and 8 not distinctly smaller than adjoining. Pronotum transverse, slightly constricted preapically, suboblong, base subarcuate, sides more or less subangulate, both anterior and posterior corners pronounced; base and sides bordered, side margins with small irregular denticles, marginal fringe prominent; pronotal surface with coriaceous texture, being mostly finer on head, pronotum therefore somewhat more lustrous, surface with pubescence arranged towards a longitudinal median line and point at base. Elytral base edged at anterior corners, humeri with sharp denticle each; sutural angles more or less rounded; upper surface with flat transverse texture, scarcely punctate; pubescence clearly dual, semi-erect hairs admixed, marginal fringe almost overlapped by semi-erect hairs.

♂ (Fig. 55). Length 3.2-3.5 mm, width 1.1 mm. Antennal segments thicker. Elytra evenly convex and parallel-sided. Pygidium semicircular, very briefly incised; sternum VII briefly tapered, VIII with slender



Figs 48-55. 48-54. *Dasytidius malkini*, spec. nov. (48-52. ♂ Holotype). 55. *D. impar*, spec. nov., ♂ Holotype. 48, 55. Body outline. 49. Median process of sternum VIII. 50. Spicular fork. 51. Tegmen ventral. 52. Phallus lateral. 53. ♀ copulatory organs. 54. Same, different aspect. Scales: A: Figs 51, 52. B: 48; C: 49, 50, 53, 54; D: 55.

and simple median process (Fig. 56); spicular fork shown (Fig. 57); tegmen, as in other members of the *indutus*-group; phallus in side view (Fig. 58) with beak-shaped apex; internal sac with complex structure.

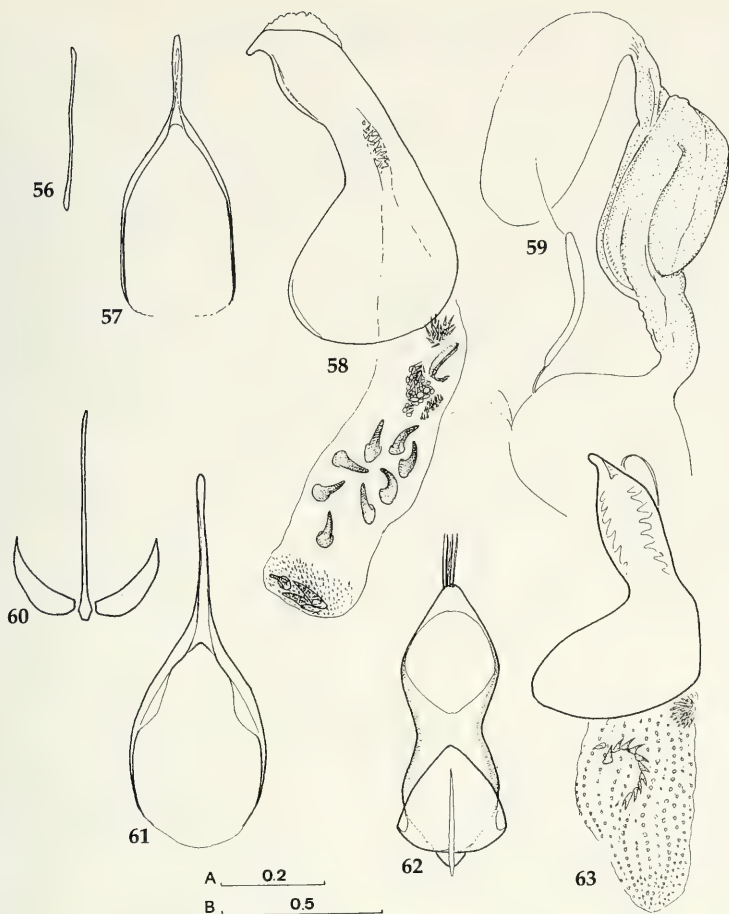
♀. Length 3.0-3.5 mm, width 1.1-1.3 mm. Antennal segments smaller, elytra somewhat broadening and more convex posteriorly. Pygidium subtrapeziform, apex weakly emarginate; sternum VII briefly produced; seminal duct heavily sclerotized (Fig. 59).

Distribution. Turkey.

***Dasytidius wittmeri* Majer, 1991**
Figs 60-63

This species was described according to females only. I am giving here illustrations of the male terminalia (Figs 60-63).

Additional material: 2, Saudi Arabia, Thanomah, 1950 m, 11.4.1980, W. Büttiker" (1 KMBC, 1 NHMB).



Figs 56-63. 56-59. *Dasytidius impar*, spec. nov. (56-58. ♂ Holotype). 60-63. *Dasytidius wittmeri* Majer, ♂. 56. Median process of sternum VIII. 57, 61. Spicular fork. 58, 63. Phallus lateral. 59. ♀ copulatory organs. 60. Sternum VIII (all setae omitted). 62. Tegmen ventral. Scales: A: Figs 56-58, 61-63; B: 59, 60.

Dasytidius addilaensis Wittmer

New for Yemen: 1♂, 1♀, Yemen, Horaz, Monacha-Mawsana, 3.6.1987, H. Mühle leg. (KMBC, RCSL).

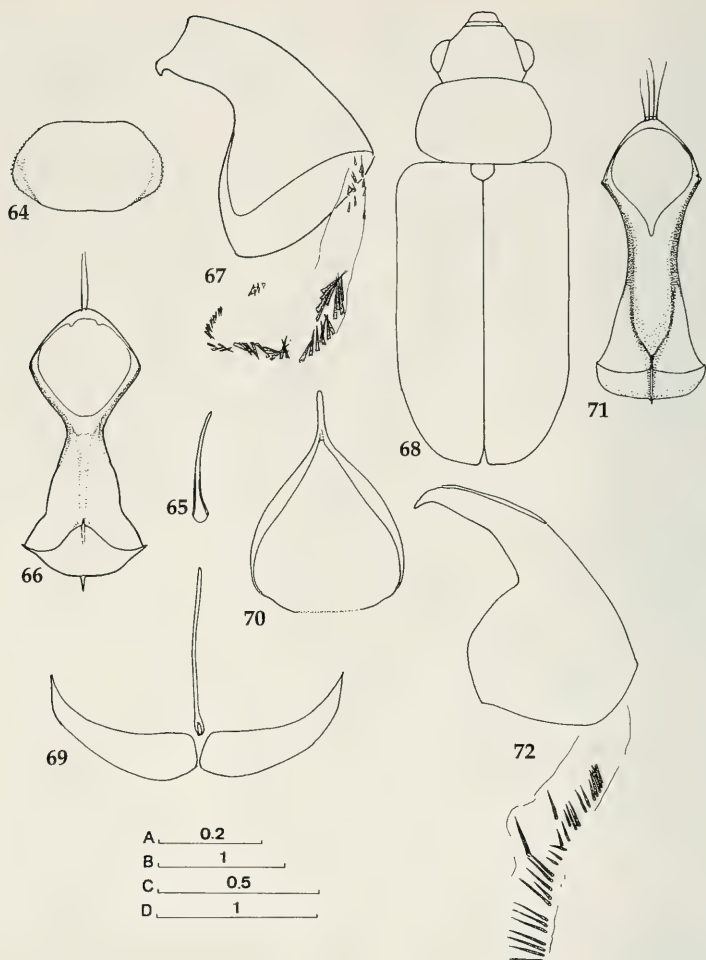
Dasytidius clarkei, spec. nov.

Figs 64-67

Types. Holotype: ♂, "Sidamo Prov.: 105 km E of Neghelli, 1300/1500 m, 7/8-V-74" (printed); "Coll. Mus. Tervuren Ethiopie, R.O.S. Clarke" (printed); "*Dasytiscus* sp. J. Decelle det. 1979" (MRAC).

Very closely resembling *D. addilaensis* in the body shape and terminalia, but pronotum is more transverse, with more rounded sides with distinctly denticulate side margins.

♂. Length 3.5 mm, width 1.4 mm. Robust, subcylindrical, strongly convex. Black, with plumbeous



Figs 64-72. 64-67. *Dasytidius clarkei*, spec. nov., ♂ Holotype. 68-72. *D. desaegeri* (Pic), ♂ Lectotype. 64. Outline of pronotum. 65. Median process of sternum VIII. 66, 71. Tegmen ventral. 67, 72. Phallus lateral. 68. Body outline. 69. Sternum VIII (all setae omitted). 70. Spicular fork. Scales: A: Figs 69-72; B: 64-66; C: 67; D: 68.

lustre, extremities rufotestaceous; antennal scape black, segments 5-11 gradually darkening, mouthparts black; apex of metatarsi and claws darkened. Integument indistinctly punctate, with somewhat coriaceous texture; pubescence flavescent, seemingly single, but a part of elytral hairs more reclinate.

Antennal segments 5 and 6 subtriangular, 7-10 distinctly transverse, 11 shortly subelliptical; head capsule as in *D. addilaensis*. Pronotum (Fig. 64) nearly twice as broad as long, sides strongly rounded and slightly explanate; side margins finely, but distinctly denticulate, fringe distinct; pubescence arranged towards a point at base. Elytra subtruncate at apex.

Pygidium, sternum VII, VIII (Fig. 65), and spicular fork nearly as in *D. addilaensis* Wittm; tegmen (Fig. 66) with more strongly broadening base, strongly constricted across middle; phallus (Fig. 67) slightly emarginate at apex, spinules somewhat less numerous than in *C. addilaensis*.

♀. Unknown.

Distribution: Ethiopia.

***Dasytidius desaegeri* (Pic), comb. nov.**

Figs 68-72

Dasytiscus Desaegeri Pic, 1954: 211.

Types. Lectotype: ♂, "Musée du Congo, Bussin Lukunga,-1935, H. De Saeger" (printed); "*Dasytiscus desaegeri* n. sp." (Pic's MS) (MNHN). - Paralectotype: 1♂, "Musée du Congo "(printed); "Kiambi, 4.V.-1931 " (handwritten); "G.F. de Witte" (printed); "von de witte mihi" (Pic's MS) (MHNP).

Species related to *D. addilaensis* and allied forms. Black, lustrous, antennal segments 2-4 rufescent. Integument finely and regularly punctate; pubescence whitish, suberect, fine moderately long, seemingly single.

♂ (Fig. 68). Length 2.8 mm; width 1.0 mm. Head wide, eyes prominent, round; surface lustrous, puncturation rather shallow, indistinct, sparse, irregular; intervals with indistinct microsculpture. Terminal segment of maxillary palps subcylindrical; antennal joints 4-10 distinctly serrate, 5-10 more or less transverse. Pronotum strongly transverse, broadest beyond middle, base subarcuate, sides strongly arcuate, apex straight, disc and sides not very finely, rather indistinctly, punctate, intervals polished, broader, than punctures; perimeter bordered, side margins very finely crenate; pubescence arranged from sides towards median longitudinal line, lateral fringe distinct. Elytra parallelsided, apex somewhat attenuate and truncate, surface with shallow, relatively coarse and regular puncturation, intervals with microsculpture, as broad as punctures; sides bordered (visible along distal portion); pubescence rather hirsute but fine, two kinds of hairs cannot be distinguished, lateral fringe not defined due to suberect pubescence. Legs relatively robust.

Pygidium trapeziform; sternum VII nearly straight, VIII (Fig. 69) with slender median process; spicular fork (Fig. 70) with broad and arched spiculae; tegmen (Fig. 71) strongly resembling that in *D. addilaensis*; phallus in side view (Fig. 72) with large base; internal sac with numerous, dark, elongate, spinules.

♀. Unknown.

Distribution: Zaire.

***Dasytidius atrimembris* (Pic), comb. nov.**

Figs 73-78

Dasytiscus atrimembris Pic, 1925: 17.

Dasytiscus Scotti Wittmer, 1954: 136, syn.nov.

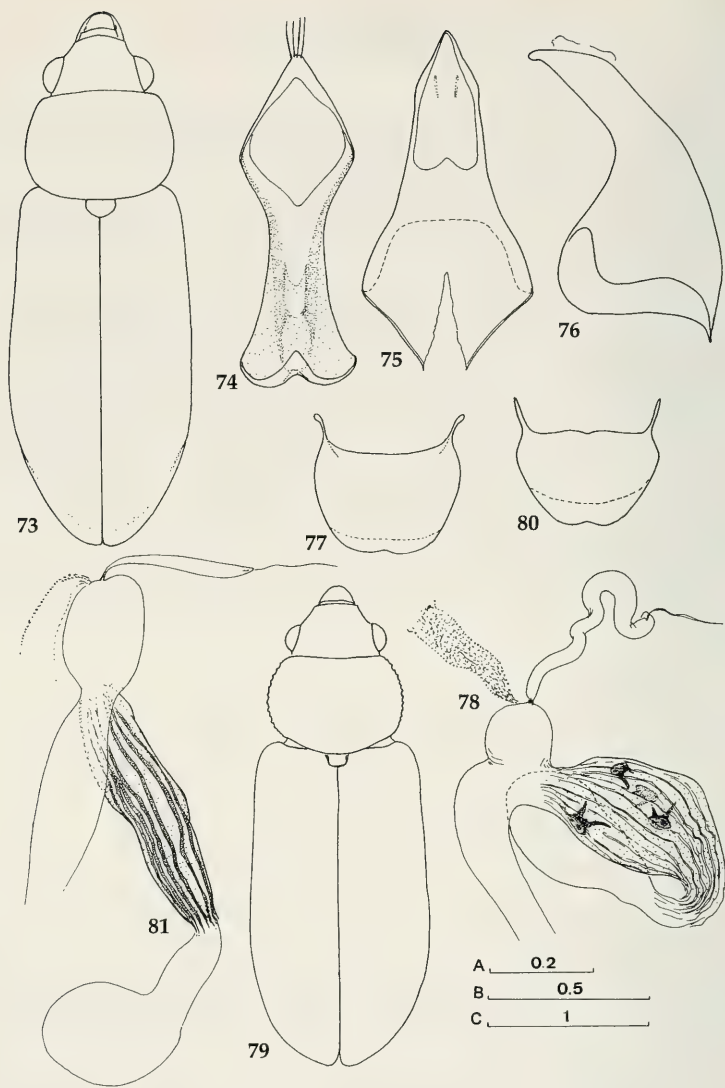
Types. Holotype: ♂, "Maraco abyssinie" (Pic's MS); "type" (yellow label); "*Dasytiscus atrimembris* n. sp." (Pic's MS) (MNHN).

Species mostly resembling *D. desaegeri* (Pic) in completely black coloration, sclerites in seminal canal resemble those in *D. gracilis* (Esc.) but *atrimembris* is most closely allied to *D. addilaensis* (Wittm.).

Coloration completely black, no spur of metallic tinge, upper surface slightly polished; integument with dense texture; pubescence short, almost hirsute, unicolorous (whitish) and single (subdecumbent), only pronotal fringe, several thicker hairs at elytral apex and those on head frons dark.

Head with moderately prominent eyes, surface sparsely and shallowly punctate, intervals nearly glabrous. Pronotum strongly transverse, base subarcuate, apex nearly straight, sides subarcuate; disc regularly and finely punctate, intervals with network texture, scarcely polished, broader than punctures, puncturation denser sideways; perimeter very finely bordered; pubescence pointing from sides towards a median longitudinal line (as in *D. desaegeri* Pic), side margins scarcely crenate; fringe composed of thicker bristles which are more or less infusate, distinctly darker than basal pubescence. Elytra very long, with slightly attenuate apex, tips rounded respectively; puncturation somewhat coarser than on pronotum; intervals convex, with microsculpture, as broad as punctures; sides of elytra bordered; pale pubescence rather hirsute, longer, thicker and darker bristles present on elytral apex; lateral fringe not well marked.

♂. Length 3.2-3.4 mm, width 1.1-1.2 mm. Much more slender than ♀. Antenna longer, joints less transverse. Sides of pronotum less arcuate. Pygidium subquadrate; sternum VII weakly produced; VIII with swollen median process; spicular fork ovate, with thin walls, fork proper short; tegmen (Fig. 74) resembles that in *D. addilaensis*; phallus (Figs 75, 76) short, base extremely enlarged; in side view with deep incision; internal sac without distinct spinules.



Figs 73-81. 73-78. *Dasytidiidae atrimembris* (Pic) (73-76. ♂ Holotype). 79-81. *D. licenti* (Pic), ♀ Lectotype. 73, 79. Body outline. 74. Tegmen ventral. 75. Phallus dorsal. 76. Phallus lateral. 77, 80. ♀ pygidium (all setae omitted). 78, 81. Copulatory organs. Scales: A: Figs 74-76; B: 77, 78, 80, 81; C: 73, 79.

♀ (Fig. 73). Length 3.2-3.4 mm, width 1.2-1.3 mm. Broadening at hind third. Antenna shorter than in ♂, segments more transverse. Pronotal sides more arcuate. Pygidium (Fig. 77) strongly rounded; sternum VII subarcuate, only very briefly tapered; seminal canal (Fig. 78) with longitudinal patterns and peculiar inner spinules.

Distribution. Ethiopia.

Syntypes, 2♂, 2♀, of *D. scotti* (BMNH): "Ethiopia: Doukhamb. 6500-7500 ft., 18.x.[or 20.x.] 1926".

Dasytidius licenti (Pic), **comb. nov.**

Figs 79-81

Dasytiscus Licenti Pic, 1936: 162.

Types. Lectotype: ♀, "1. VI. 16, Licent / [reverse side] "Vigne vierge [wild vine], Ailanthé"; "*Dasytiscus Licenti* n. sp." (Pic's MS) (MNHN). - Paralectotype: 1♀, "9.VI.16" / [reverse side] "Licent"; "No 206" (MHNP).

The species seems similar to *D. longiventris* Majer by the structure of seminal canal but its relation to *Dasytidius* is not settled.

Coloration black, upper surface with olivaceous lustre, legs testaceous, mouthparts infusate, antenna testaceous, scape scarcely infusate, segments 5-11 gradually darkened towards apex, distal antennal half at the most infusate. Integument with dense and fine texture, pubescence cinereous, fine and moderately dense, indistinctly dual.

♂. Unknown.

♀ (Fig. 79). Length 2.8-3.0 mm, width 1.1-1.2 mm. Head with small eyes, surface with very dense and fine, rather scabrose sculpture, therefore nearly dull. Antenna slender and long, with subserrate segments. Pronotum transverse, disc weakly polished, with fine and dense, rather regular texture, puncturation only indicated, sides more rugose, side margins with small regular denticles, pubescence pointing towards a point near base. Elytra rounded respectively at apex, surface shallowly and densely punctured, punctures partly confluent into transverse wrinkles, intervals with microsculpture, side margins very finely, indistinctly bordered, apical margin slightly explanate. Pygidium (Fig. 80) emarginate at apex; sternum VII briefly produced medioapically; seminal duct weakly sclerotized, with linear sculpture (Fig. 81).

Distribution: China.

Mimothrix pamirensis, **spec. nov.**

Figs 82, 83

Types. Holotype: ♂, "Kurovat" Pamir 10/VIII 93 N. Bogoyavlensk" (Printed in Cyrillic) (ZMUM).

Species very closely related to *M. roshthalensis* Majer, from which it differs strikingly by antennal segments not transverse and elytra less lightened, phallus much more slender, with big prominent spinules.

♂. Length 4.0 mm, width 1.5 mm. Black, slightly shiny, with aeneous lustre, puncturation dense, fine, rather coriaceous, extremities rufotestaceous, antennal segments 1 and 9-11 more or less darkened. Elytra rufopiceous, humeral portion darkened. Pubescence white, dual, decumbent, rather villose, with sparse, erect longer hairs which are subserrate on elytra. Antenna about two fifths longer than pronotum, segments subserrate, no one is transverse. Eyes rather flat and weakly prominent, head subrostrate. Pronotum indistinctly transverse, finely and densely punctured, sides rounded, side margins indistinctly crenate, with sparse fringe. Elytra sharply bordered along side margins, borders nearly canalaculate, elytral apices weakly obliquely truncate respectively, sutural angles slightly rounded.

Pygidium about twice broader than long, indistinctly emarginate; sternum VII nearly straight; VIII as in other species, spicular fork slender; tegmen (Fig. 82) with truncate apex; phallus (Fig. 83) rather slender, subsinuate, with prominent big spinules.

Distribution. Tajikistan (Pamir).

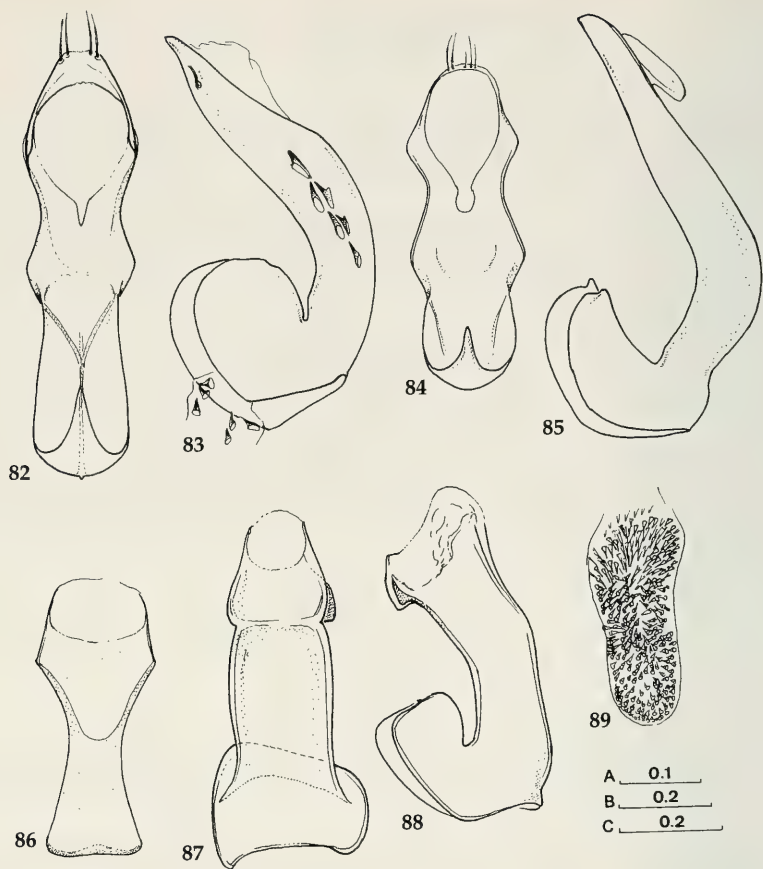
Achaetomalachius rosti, **spec. nov.**

Figs 84, 85

Types. Holotype: ♂, "Kulu, 7000 F" (Rost's MS); "Kulu Himalaya" (printed) (MNHN).

Easily recognizable by combination of testaceous extremities and very dense greyish fundamental pubescence, with only light bristles on pronotum.

Coloration black, with slight greenish reflexes but upper surface completely covered with very dense subvillose pubescence (which has no analogy in the genus *Achaetomalachius*), extremities rufotestaceous,



Figs 82-89. 82, 83. *Mimothrix pamirensis*, spec. nov., ♂ Holotype. 84, 85. *Achaetomalachijs rosti*, spec. nov., ♂ Holotype. 86-89. *Dasytiscus strejcekorum*, spec. nov., ♂ Holotype. Scales: A: Figs 86-89; B: 82, 83; C: 84, 85.

antennal scape, distal pat of antenna, maxillary palps and claws strongly infusate, distal antennal segments nearly piceous.

♂. Length 3.3 mm, width 1.2 mm. Head with coriaceous sculpture, along inner eye margins with 3-5 longer light setae, antennal segments 4-10 subtriangular, no one is transverse, 10 scarcely longer than wide. Pronotum weakly transverse, base and sides jointly rounded, sculpture as on head, basal pubescence points towards centre, side margins with 8-10 very small but prominent denticles, each bearing one to two long light setae. Elytra very finely bordered along side margins, apex subtruncate and inconspicuously inflated, sutural angles distinctive, upper surface with dense and coriaceous, fine puncturation, marginal fringe short but distinct, longer hairs are present on humeri and along apical margin.

Pygidium broadly trapeziform. Sternum VII conspicuously produced medioapically. Tegmen (Fig. 84) and phallus (Fig. 85) shown.

Distribution: N India.

species group	1 fulvipes	2 syriacus	3 optivus	4 medius	5 vestitus	6 rufimanus	7 transversus	8 persicus	9 indutus	10 sudanicus	11 atrimembris
spicular fork											
tegmen											
phallus											
internal sac											
female copulatory organs											
distribution	Turkey, Syria, Jordan	East Mediterranean	Syria, Turkey, Greece	West Mediterranean	West Mediterranean	Central Asia, East Palaearctic	Iran	East Mediterranean	Balkan, Turkey, Cyprus	Somalian, Sudanik, West-African	Somalian, East-African

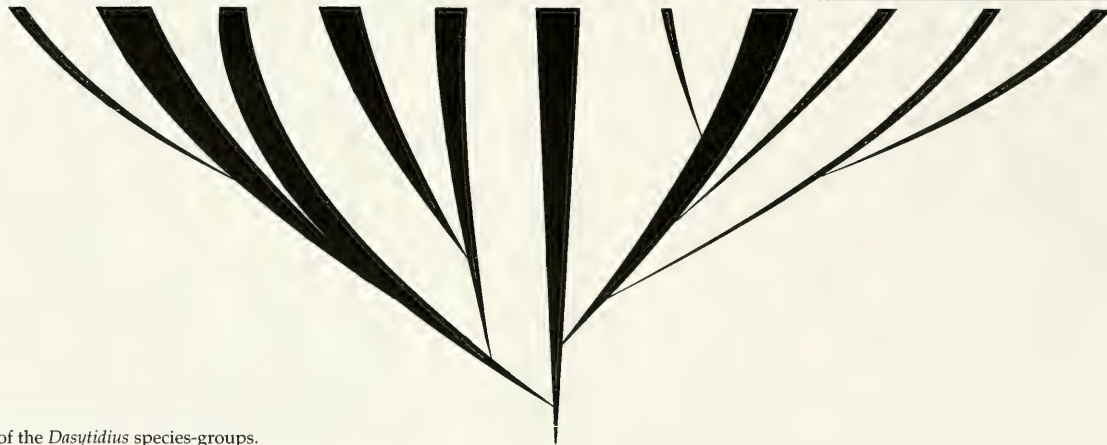


Fig. 90. Classification of the *Dasytidius* species-groups.



Fig. 91. Distribution of the *Dasytiscus* species-groups. The numbers indicate the respective species-groups as in text.

Dasytiscus strejcekorum, spec. nov.

Figs 86-89

Types. Holotype: ♂, "USSR, Armenia Erivan (Razdan) 7.6.1988 J.Strejček leg." (KMBC). - Paratypes: 6♂♂, 4♀♀, same data (KMBC); 2♂♂, 4♀♀, "ARMENIA, 27.5.1989 Erivan, Upper Razdan, steppe ruderal, E. Strejčková leg." (KMBC).

The species is strongly resembling and very closely related to *D. hladili* (Majer, 1988) from which it differs in antennal segments 2 (-4) rufotestaceous, pronotum and elytra less lustrous and more densely punctured and chiefly in the absence of big rounded spinules in the internal sac.

Shiny, dark-brown, antennal segments 2 (-4), ends of femora, tibiae and tarsi rufotestaceous. Punctures moderately dense, fine. Pubescence almost decumbent, fine and short, whitish. Antenna one fifth longer than pronotum, segments 6-10 weakly transverse, 6 and 8 strongly smaller than neighbouring, 4 elongate, subtriangular, 5 strikingly triangular, 11 conical and as long as 9 and 10 together. Eyes large, moderately prominent. Pronotum one fifth broader than long, base and apex subarcuate, side margins with 4-7 weakly prominent marginal denticles; hairs converging at a point at basal fifth. Elytra subtruncate at apex, sutural angles weakly rounded respectively.

♂. Length 2.1-2.5 mm, width 0.7-0.9 mm. Parallel sided. Antennal segments more robust; elytral apex more truncate, sutural angles more prominent. Pygidium three-times broader than long, shallowly and broadly emarginate; spicular fork, sternum VII and VIII without distinctive characters; tegmen (Fig. 86) strongly angled at sides preapically, phallus dorsally and laterally (Figs 87,88) most resembling that in *D. schereri* Majer but internal sac (Fig. 89) without stout round spinules.

♀. Length 2.3-2.7 mm, width 0.8-1.0 mm. Slightly broadening. Antennal segments finer, elytral apices rounded, terminalia as in *D. hladili* but pygidium more transverse.

Distribution. Armenia.

Dasytiscus minimus (J. Sahlberg, 1903)

Dasytiscus ruficollis var. *bicoloriceps* Pic, 1926: 1, syn. nov.

Holotype: ♀, "Transkaspija Saramsakli" (printed); "*D. ruficollis* v. *bicoloriceps* Pic" (MHNP).

It does not differ from *Dasytiscus minimus* (J. Sahlb.).

Acknowledgements

My sincere thanks belong to all who kindly placed their material at my disposal: Mrs. E. R. Peacock (BMNH), Dr. O. Merkl (HNHM), Dr. J. J. Menier (MNHN), Dr. J. Decelle (MRAC), Dr. M. Brancucci (NHMB), Dr. R. Constantin (RCSL) and Dr. G. Lyubarski (ZMUM).

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